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FRANKLIN E. BOYER

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ROPES & GRAY LLP

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANKLIN E. BOYER and TIMOTHY B. DEMERS

Appeal 2008-3218
Application 09/330,793
Technology Center 2600

Decided: September 18, 2008

Before JOSEPH F. RUGGIERO, JOHN A. JEFFERY, and CARLA M.
KRIVAK, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 151-154, 156-159, 161-164, and 202-205. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

STATEMENT OF THE CASE

Appellants invented an interactive program guide system, a method for aiding a user in identifying programs for viewing on television, and machine-readable media for use with an interactive program guide. A program listing is overlaid in a display region of the television screen while the current program is being viewed. In one embodiment, the system recommends programs based on the program attributes of the current program being viewed and creates an adaptive browser for the guide system.¹ Representative independent claim 151 is reproduced below:

151. An interactive television program guide system for aiding a user in identifying programs for viewing, comprising:

user television equipment on which an interactive television program guide is at least partially implemented, wherein:

the user television equipment is configured to display a television screen having video of a current program airing on a first channel;

the user television equipment is configured to allow the user to sequentially browse program listings for available programming by selectively displaying each program listing separately in a display region on the television screen, wherein the display region is an overlay that is displayed while the current program is displayed on the first channel;

the user television equipment is configured to limit which program listings are displayed in the display region based only on various program attributes of the current program; and

the user television equipment is configured to allow the user to adjust the relative importance of the various program attributes of the current program that are used to limit the displayed program listings, wherein the

¹ See generally Spec. 4:10-22, 16:12-25, 22:10-16, 24:8-25:15, and 33:12-27.

adjustment of the relative importance is performed by adjusting a weight factor for each program attribute.

The Examiner relies upon the following as evidence in support of the rejection:

Herz	US 5,758,257	May 26, 1998
Ellis	US 5,986,650	Nov. 16, 1999 (filed Jul. 3, 1996)
Maissel	US 2004/0049787 A1	Mar. 11, 2004 (effectively filed Jun. 30, 1998)

Claims 151-154, 156-159, 161-164, and 202-205 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ellis, Maissel, and Herz.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Briefs² and the Answer³ for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments, which Appellants could have made but did not make in the Briefs, have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

REJECTION OVER ELLIS, MAISSEL, AND HERZ

Appellants group the claims as follows: (1) claims 151-153, 156-158, 161-163, and 202-204 and (2) claims 154, 159, 164, and 205 (App. Br. 11-21). Each grouping will be addressed separately.

² We refer to the Appeal Brief filed June 28, 2007, and the Reply Brief filed December 5, 2007, throughout this opinion.

³ We refer to the Examiner's Answer mailed October 4, 2007, throughout this opinion.

Claims 151-153, 156-158, 161-163, and 202-204

We first turn to the rejection of claims 151-153, 156-158, 161-163, and 202-204 under 35 U.S.C. § 103(a) as being unpatentable over Ellis, Maissel, and Herz. Regarding representative independent claim 151,⁴ the Examiner finds that the combination of Ellis, Maissel, and Herz teaches all the recited elements (Ans. 4-7). Appellants argue that: (1) the combination does not teach the limitation “the user television equipment is configured to limit which program listings are displayed in the display region based only on various program attributes of the current program;” (2) Maissel teaches away from Appellants’ invention and the proposed combination; and (3) Herz is nonanalogous art (App. Br. 12-19; Reply Br. 3-13).

ISSUES

The following issues have been raised in the present appeal:

- (1) Whether the combination of Ellis, Maissel, and Herz teaches a user television equipment configured to limit the program listings displayed based only on various program attributes of the current program.
- (2) Whether Maissel teaches away from the Appellants’ invention and the proposed combination.
- (3) Whether Herz is analogous art.

⁴ Appellants argue claims 151-153, 156-158, 161-163, and 202-204 as a group (App. Br. 20). Accordingly, we select independent claim 151 as representative. 37 C.F.R. § 41.37(c)(1)(vii).

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Maissel provides an intelligent agent 130 used to customize an electronic program guide. The intelligent agent 130 acts on rules to learn the viewer's habits and tailor the electronic program guide to the learned information (Maissel, ¶¶ 31, 132-134, and 185-187; Fig. 7).
2. Maissel teaches the program schedule information uses current program characteristics or characterizes the television program currently being viewed during a set period of time. This tracking also customizes the program listing to the user's viewing habits. The period of time for monitoring the viewer can be as short as a few minutes (Maissel, ¶¶ 122 and 134).
3. Maissel teaches the viewer preference profile is built from information related to preference strength or the number of times that a program has been viewed in a given period and that this and other information can be adjusted (Maissel, ¶¶ 123-153).
4. Ellis discloses an overlay 111 on a television screen that includes various program attributes, such as time 121, channel 112, and program title 122. When first entering the BROWSE mode, the overlay 111 shows information related to the currently viewed program (Ellis, col. 12, ll. 29-61 and col. 13, ll. 19-22 and 40-43; Figs. 7-8A).
5. Ellis also discloses a BROWSE time-wise scan in which the overlay 111 shows successive program information airing on the currently

- viewed channel (e.g., 21) and also displays various program attributes (Ellis, col. 15, l. 45 – col. 16, l. 25; Figs. 13A-C).
6. Ellis discloses a Listing Category mode of an electronic program guide that only tunes to sports programs based on the user currently watching a sports program (Ellis, col. 17, ll. 7-20).
 7. Appellants invented an adaptive program guide used with television equipment that monitors a user's viewing activity. The activities may be based on current or general programming and builds a list of programs from the entire program listing database based on the user's viewing activity (Spec. 2:26-3:7 and 24:8-32).
 8. Herz also teaches an adaptive program system that is based on the user's viewing habits. Herz's system includes narrowing the schedule or program listing of a program guide based on those habits (Herz, col. 4, l. 59 – col. 5, l. 52, col. 23, ll. 1-10, col. 24, l. 67 – col. 25, l. 1, col. 41, ll. 1-4, and col. 45, ll. 14-20 and 34-43).
 9. Herz teaches using a neural network to build a customer profile based on viewer's habits and to include demographic and psychographic information into a customer's profile. Herz prefers using a certain algorithm but states any of the described methods, including a neural network, can be used (Herz, col. 5, ll. 23-52 and col. 34, ll. 24-36).
 10. Many television programs typically air for thirty minutes or an hour.

PRINCIPLES OF LAW

Discussing the question of obviousness of a patent that claims a combination of known elements, *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), explains:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* [v. *AG Pro, Inc.*, 425 U.S. 273 (1976)] and *Anderson's-Black Rock[, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969)] are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR, 127 S. Ct. at 1740.

If the Examiner's burden is met, the burden then shifts to the Appellants to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

Additionally, we are reminded that during examination of a patent application, a claim is given its broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. Of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

ANALYSIS

Appellants first argue that the viewer preference profile and program listing in Maissel are based on information obtained over a period of time and not based only on attributes of the currently displayed program (App. Br. 13-15). Specifically, Appellants contend that the concept behind the

Maissel invention is to track programs being viewed by a user over time and not to limit the listing based on the current program. In Appellants' view, the possibility of the viewer watching a program for a few minutes, and thus basing the program listings on only various attributes of the current program, "is mere happenstance" (App. Br. 14). We disagree for the following reasons.

Ellis discloses an overlay 111 on a television screen that includes various program attributes, such as time 121, channel 112, and program title 122 (FF 4). When first entering the BROWSE mode, the overlay 111 shows information related to the current channel being viewed, including the time, channel, and program title (*Id.*). Maissel teaches an alternative program guide system that uses an intelligent agent 130 to customize another electronic program guide (FF 1). In particular, Maissel teaches the program schedule information uses current program characteristics or is characterized by the television program currently being viewed (FF 2). The period of time used to characterize the viewing habits of the user in Maissel can be as short as a few minutes (*Id.*). We take notice⁵ that many television programs typically air for thirty minutes or an hour (FF 10), and one skilled in the art would have recognized thirty minutes or an hour as a well known length of television programming. We also find that some viewers will keep the television on the current program during an entire show, while others will change channels during the program. Thus, one skilled in the art would have equally recognized that those viewers who do not change the program during

⁵ See *In re Ahlert*, 424 F.2d 1088, 1091 (CCPA 1970) (explaining that "the Patent Office appellate tribunals, where it is found necessary, may take notice of facts beyond the record which, while not generally notorious, are capable of such instant and unquestionable demonstration to defy dispute.")

the entire show will be watching a current program for more than a few minutes. As such, for those viewers who do not change programs during the airing of a show, Maissel teaches an intelligent agent 130 that obtains viewer preferences and bases the program listing only on program attributes of the current program in order to cater the listing to the user's viewing habits (FF 1-2). Moreover, incorporating such a teaching into Ellis' television equipment yields a predictable result of limiting which program listings are displayed based only on various program attributes of the current program and makes the program listing meaningful to the viewer. *See KSR*, 127 S. Ct. at 1740.

Additionally, Ellis also discloses a BROWSE time-wise scan in which the overlay shows successive program information airing on the currently viewed channel (FF 5). By displaying only information related to the currently viewed program using the BROWSE time-wise scan, the program listings are based only on various program attributes (e.g., channel and time) of the current program (FF 4). Ellis equally suggests that the program guide in the FLIP or BROWSE mode is based on the content or category of what is currently being viewed. For example, Ellis discloses a Listing Category mode of an electronic program guide that only tunes to sports programs based on the user currently watching a sports program (FF 6). If only sports channels are tuned during this mode, then one skilled in the art would have recognized such a teaching would additionally suggest catering the program listings to the tuned programs or those programs relating to sports programming in order to match the listings to the tuned programming. Ellis, therefore, discloses and suggests the television equipment is configured to

limit which program listings are displayed based only on various attributes of the current program as recited in claim 151.

Appellants next contend that Maissel leads away from Appellants' invention because Maissel teaches building a viewer profile and customizing program listings over extended periods of time (App. Br. 16). Both Ellis and Maissel teach customizing a program listing. Moreover, Maissel provides an alternative way to customize the program listing based on building a profile in as short as a few minutes (FF 2) and, as discussed above, one skilled in the art would have recognized building a profile based on a few minutes includes building a profile based only on various attributes of the current program. We, hereby, incorporate the previous discussion of Maissel and Ellis by reference and are unpersuaded that Maissel teaches away from limiting the program listing based only on various program attributes of the current program. Moreover, as discussed above, Maissel provides ample reason to combine its teaching with Ellis.

Appellants lastly argue that Herz is nonanalogous art (App. Br. 16-19). As stated in *In re Kahn*, 441 F.3d 977 (Fed. Cir. 2006), “[t]he analogous-art test requires that the Board show that a reference is either in the field of the applicant's endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection.” *Id.* at 986-87 (citing *Oetiker*, 977 F.2d at 1447).

Appellants contend that Herz is concerned with restricting programming while Appellants are concerned with customizing program listings, and thus, they are not from the same field of endeavor (App. Br. 18-19). Appellants further argue that Herz does not solve the same problem with which the Appellants were concerned (App. Br. 19-20).

We first note that Maissel provides a teaching of building the viewer preference profile from information related to preference strength or the number of times that a program was viewed in a given period (FF 3). That gathered information in the preference profile can also be adjusted (*Id.*). Based on this preference strength or weight factor, the television equipment is configured to allow the user to adjust the relative importance of various program attributes of the current program by adjusting weight factors for each program attribute (*Id.*). We, nonetheless, also find that Herz is analogous art.

Appellants invented an adaptive program guide used with television equipment that monitors a user's viewing activity (FF 7). The activity may be based on current or general programming. A smaller program listing is built from the entire program listing database based on the viewing activity (*Id.*). Similarly, Herz also teaches an adaptive program guide that can be based on the user's viewing habits and narrows the program listing based on those habits (FF 8). Thus, while Herz may perform other functions including restricting the content, as Appellants have argued (App. Br. 18-19), we find both limit the program listing based on the user's viewing habits. Thus, both relate to customizing a programming data guide and are in the same field of endeavor.

For the above reasons, Appellants have not shown the Examiner erred in rejecting claims 151-153, 156-158, 161-163, and 202-204 under 35 U.S.C. § 103(a) based on the collective teachings of Ellis, Maissel, and Herz.

Claims 154, 159, 164, and 205

Representative claim 154⁶ recites the user television equipment is configured to limit the program listings displayed by using a neural network. The Examiner finds that the combination of Ellis, Maissel, and Herz teaches all the recited elements (Ans. 8). Appellants argue that Herz does not teach a neural network and even teaches away from using a neural network (App. Br. 20-21).

The Specification provides no special definition for “a neural network.” Additionally, while Appellants argue that Herz does not disclose an artificial neuron or a learning algorithm (App. Br. 21), Appellants fail to provide evidence that one skilled in the art would have understood a neural network to include these features. Nonetheless, Maissel teaches using an intelligent agent 130 that acts on rules or an algorithm to learn the viewer’s habits and tailor the program guide based on the learned information (FF 1). Moreover, as Appellants correctly point out (App. Br. 21), Herz teaches using a neural network to build a customer profile based on viewer’s habits and to include demographic and psychographic information into a customer’s profile (FF 9). Lastly, while Herz teaches a preference for a certain type of algorithm, Herz states any of the described methods, including using a neural network, can work (*Id.*). Contrary to Appellants’ assertion (App. Br. 20-21), Herz, therefore, does not teach away from using a neural network. Thus, we find that both Maissel and Herz teach a neural network used to limit the program listings displayed as recited in claim 154.

⁶ Appellants argue claims 154, 159, 164, and 205 as a group (App. Br. 20-21). Accordingly, we select independent claim 154 as representative. 37 C.F.R. § 41.37(c)(1)(vii).

For the above reasons, Appellants have not shown error in the Examiner's obviousness determination of claim 154 based on the collective teachings of Ellis, Maissel, and Herz. Accordingly, we sustain the rejection of claim 154, and claims 159, 164, and 205, which fall with claim 154.

CONCLUSIONS

(1) For the foregoing reasons, Appellants have not shown the Examiner erred in finding that the combination of Ellis, Maissel, and Herz teaches the recited user television equipment configured to limit the program listing based only on various program attributes of the current program in independent claim 151.

(2) For the foregoing reasons, Appellants have not persuasively shown Maissel teaches away from Appellants' invention or the combination.

(3) For the foregoing reasons, Appellants have not persuasively shown Herz is nonanalogous art.

(4) For the foregoing reasons, Appellants have not shown the Examiner erred in finding that the combination of Ellis, Maissel, and Herz teaches the recited neural network of claim 154.

DECISION

The decision of the Examiner to reject claims 151-154, 156-159, 161-164, and 202-205 is affirmed.

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No period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

KIS

ROPES & GRAY, L.L.P.
PATENT DOCKETING 39/361
1211 AVENUE OF THE AMERICAS
NEW YORK, NY 10036-8704